What is Claimed is:

1. An isolated peptide comprising the amino acid sequence QA(Q/E)GQLV or functional equivalents thereof, wherein said peptide selectively homes to TNF receptor(s) of the vasculature of a heart.

2. A peptide according to claim 1, wherein the amino acid sequence is QAQGQLV.

3. A peptide according to claim 1, wherein the amino acid sequence is QAEGQLV.

4. A peptide according to claim 1, wherein the peptide consists of the amino acid sequence QAEGQLV.

5. A peptide according to claim 1, wherein the peptide consists of the amino acid sequence QAQGQLV.

6. An isolated peptide according to claim 1, wherein said vasculature is microvasculature.

7. An isolated peptide according to claim 1, wherein said peptide further comprises additional amino acid residues.

8. An isolated peptide according to claim 1, wherein said peptide comprises a maximum of approximately 200 amino acid residues.

9. An isolated peptide according to claim 1, wherein said peptide comprises a maximum of approximately 175 amino acid residues.

10. An isolated peptide according to claim 1, wherein said peptide comprises a maximum of approximately 150 amino acid residues.

11. An isolated peptide according to claim 7, wherein said additional amino acid residues constitute a sequence found in human TNFα.

12. An isolated peptide according to claim 1, wherein said peptide further comprises the amino acid residues found approximately at positions 10-15 of human TNFα.

13. An isolated peptide according to claim 1, wherein said peptide further comprises the amino acid residues found approximately at positions 5-15 of human TNFα.

14. An isolated peptide according to claim 1, wherein said peptide further comprises the amino acid residues found approximately at positions 2-15 of human TNFα.

15. An isolated peptide according to claim 1, wherein said peptide further comprises the amino acid residues found approximately at positions 23-60 of human TNFα.

16. An isolated peptide according to claim 1, wherein said peptide further comprises the amino acid residues found approximately at positions 23-120 of human TNFα.

17. An isolated peptide according to claim 1, wherein said peptide further comprises the amino acid residues found approximately at positions 23-150 of human TNFα.

18. An isolated peptide comprising the amino acid sequence ARRGQAV or functionally equivalent thereof, wherein said peptide preferentially homes to BDNF receptor(s) of the vasculature of a heart.

19. A peptide according to claim 18, wherein the peptide consists of the amino acid sequence ARRGQAV.

20. An isolated peptide according to claim 18, wherein said vasculature is microvasculature.

21. An isolated peptide according to claim 18, wherein said peptide further comprises additional amino acid residues.

22. An isolated peptide according to claim 18, wherein said peptide comprises a maximum of about 200 amino acid residues.

23. An isolated peptide according to claim 18, wherein said peptide comprises a maximum of about 175 amino acid residues.

24. An isolated peptide according to claim 18, wherein said peptide comprises a maximum of about 150 amino acid residues.

25. An isolated peptide according to claim 21, wherein said additional amino acid residues constitute a sequence found in human BDNF.

26. An isolated peptide according to claim 18, wherein said peptide further comprises the amino acid residues found approximately at position 1-4 of human BDNF.

27 An isolated peptide according to claim 18, wherein said peptide further comprises the amino acid residues found approximately at positions 3-4 of human BDNF.

28. An isolated peptide according to claim 18, wherein said peptide further comprises the amino acid residues found approximately at positions12-30 of human BDNF.

29. An isolated peptide according to claim 18, wherein said peptide further comprises the amino acid residues found approximately at position 12-50 of human BDNF.

30. An isolated peptide according to claim 18, wherein said peptide further comprises the amino acid residues found approximately at position 12-70 of human BDNF.

31 An isolated peptide according to claim 18, wherein said peptide further comprises the amino acid residues found approximately at position 12-90 of human BDNF.

32. An isolated peptide according to claim 18, wherein said peptide further comprises the amino acid residues found approximately at position 12-110 of human BDNF.

33. An isolated peptide comprising the amino acid sequence G(R/W)RFIRV or functional equivalent thereof, wherein said peptide preferentially homes to BDNF receptor(s) of the vasculature of a heart.

34. A peptide according to claim 33, wherein the amino acid sequence is GWRFIRV.

35. A peptide according to claim 33, wherein the amino acid sequence is GRRFIRV.

36. A peptide according to claim 33, wherein the peptide consists of the amino acid sequence GWRFIRV.

37. A peptide according to claim 33, wherein the peptide consists of the amino acid sequence GRRFIRV.

38. An isolated peptide according to claim 33, wherein said vasculature is microvasculature.

39. An isolated peptide according to claim 33, wherein said peptide further comprises additional amino acid residues.

40. An isolated peptide according to claim 33, wherein said peptide further comprises a maximum of about 200 amino acid residues.

41. An isolated peptide according to claim 33, wherein said peptide further comprises a maximum of about 175 amino acid residues.

42 An isolated peptide according to claim 33, wherein said peptide further comprises a maximum of about 150 amino acid residues.

43. An isolated peptide according to claim 39, wherein said additional amino acid residues constitute a sequence found in human BDNF.

44. An isolated peptide according to claim 33, wherein said peptide further comprises the amino acid residues found approximately at positions 80-98 of human BDNF.

45. An isolated peptide according to claim 33, wherein said peptide further comprises the amino acid residues found approximately at positions 60-98 of human BDNF.

46. An isolated peptide according to claim 33, wherein said peptide further comprises the amino acid residue found approximately at positions 40-98 of human BDNF.

47. An isolated peptide according to claim 33, wherein said peptide further comprises the amino acid residues found approximately at positions 20-98 of human BDNF.

48. An isolated peptide according to claim 33, wherein said peptide further comprises the amino acid residues found approximately at positions 4-98 of human BDNF.

49. An isolated peptide according to claim 33, wherein said peptide further comprises the amino acid residues found approximately at positions 106-109 of human BDNF.

50. An isolated peptide according to claim 33, wherein said peptide further comprises the amino acid residues found approximately at positions 106-112 of human BDNF.

51. An isolated peptide according to claim 33, wherein said peptide further comprises the amino acid residues found approximately at positions 106-115 of human BDNF.

52. A conjugate comprising a peptide according to claim 1 and a functional moiety, wherein said peptide selectively homes to TNF receptor(s) in the vasculature of a heart.

53. A conjugate according to claim 52, wherein the amino acid sequence is QAQGQLV.

54. A conjugate according to claim 52, wherein the amino acid sequence is QAEGQLV.

55. A conjugate according to claim 52, wherein the peptide consists of the amino acid sequence QAEGQLV.

56. A conjugate according to claim 52, wherein the peptide consists of the amino acid sequence QAQGQLV.

57. A conjugate according to claim 52, wherein said vasculature is microvasculature.

58. A conjugate according to claim 52, wherein said moiety is a marker.

59. A conjugate according to claim 58, wherein said marker is fluorescent.

60. A conjugate according to claim 58, wherein said marker is radioactive.

61. A conjugate according to claim 58, wherein said moiety is a therapeutic agent.

62. A conjugate according to claim 61, wherein said therapeutic agent is a growth factor.

63. A conjugate according to claim 62, wherein said growth factor is platelet derived growth factor.

64. A conjugate according to claim 62, wherein said growth factor is vascular endothelial growth factor.

65. A conjugate according to claim 62, wherein said growth factor is angiopoietin.

66. A conjugate comprising a peptide according to claim 18 and a functional moiety, wherein said peptide preferentially homes to BDNF receptor(s) of the vasculature of a heart.

67. A conjugate according to claim 66, wherein the peptide consists of the amino acid sequence ARRGQAV.

68 A conjugate according to claim 66, wherein said vasculature is microvasculature.

69. A conjugate according to claim 68, wherein said microvasculature comprises microvasculature endothelial cells.

70. A conjugate according to claim 66, wherein said moiety is a marker.

71. A conjugate according to claim 70, wherein said marker is fluorescent.

72. A conjugate according to claim 70, wherein said marker is radioactive.

73. A conjugate according to claim 66, wherein said moiety is a therapeutic agent.

74. A conjugate according to claim 73, wherein said therapeutic agent is estrogen.

75. A conjugate comprising a peptide according to claim 33 and a functional moiety, wherein said peptide preferentially homes to BDNF receptor(s) of the vasculature of a heart.

76. A conjugate according to claim 75, wherein the amino acid sequence is GWRFIRV.

77. A conjugate according to claim 75, wherein the amino acid sequence is GRRFIRV.

78. A conjugate according to claim 75, wherein the peptide consists of the amino acid sequence GWRFIRV.

79. A conjugate according to claim 75, wherein the peptide consists of the amino acid sequence GRRFIRV.

80. A conjugate according to claim 75, wherein said vasculature is microvasculature.

81. A conjugate according to claim 75, wherein said moiety is a marker.

82. A conjugate according to claim 81, wherein said marker is fluorescent.

83. A conjugate according to claim 81, wherein said marker is radioactive.

84. A conjugate according to claim 75, wherein said moiety is a therapeutic agent.

85. A conjugate according to claim 84, wherein said therapeutic agent is estrogen.

86. A method for determining a young heart or young areas of a heart vasculature in a mammal comprising:

a) administering a peptide comprising the amino acid sequence QA(Q/E)GQLV or functionally equivalent modifications thereof, conjugated to a detectable marker, wherein said first peptide selectively homes to TNF receptor(s) in a vasculature of the heart; and

b) detecting the marker;

wherein a disproportionately high binding of QA(Q/E)GQLV is a young heart or young areas of a heart vasculature.

87. A method according to claim 86, wherein the amino acid sequence is QAQGQLV.

88. A method according to claim 86, wherein the amino acid sequence is QAEGQLV.

89. A method according to claim 86, wherein the peptide consists of the amino acid sequence QAEGQLV.

90. A method according to claim 86, wherein the peptide consists of the amino acid sequence QAQGQLV.

91. A method according to claim 86, wherein said vasculature is microvasculature.

92 A method for determining an old heart or old areas of a heart vasculature in a mammal comprising:

a) administering a peptide comprising the amino acid sequence ARRGQAV or G(R/W)RFIRV or functionally equivalent modifications thereof, conjugated to a detectable marker, wherein said first peptide selectively homes to BDNF receptor(s) in a vasculature of the heart; and

b) detecting the marker;

wherein a disproportionately high binding of ARRGQAV or G(R/W)RFIRV is an old heart or old areas of a heart vasculature.

93. A method according to claim 92, wherein the amino acid sequence is ARRGQAV.

94. A method according to claim 92, wherein the amino acid sequence is GWRFIRV.

95. A method according to claim 92, wherein the amino acid sequence is GRRFIRV.

96. A method according to claim 92, wherein the peptide consists of the amino acid sequence ARRGQAV.

97. A method according to claim 92, wherein the peptide consists of the amino acid sequence GWRFIRV.

98. A method according to claim 92, wherein the peptide consists of the amino acid sequence GRRFIRV.

99. A method according to claim 92, wherein the BDNF receptor is trktB receptor.

100. A method according to claim 99, wherein the trkB receptor is truncated trkB.

101. A method according to claim 92, wherein said vasculature is microvasculature.

102. A method for determining the condition of a vasculature of a heart in a mammal comprising:

a) administering a first peptide comprising the amino acid sequence QA(Q/E)GQLV or functionally equivalent modifications thereof, conjugated to a first detectable marker, wherein said first peptide selectively homes to TNF receptor(s) in the vasculature of the heart;

b) administering a second peptide comprising the amino acid sequence ARRGQAV or G(R/W)RFIRV or functionally equivalent modifications thereof, conjugated to a second detectable marker,

wherein said second peptide homes to BDNF receptor(s) in the vasculature of the heart; and

c) detecting the first and second marker;

wherein a disproportionately high ratio of binding of the first peptide to the second peptide indicates a young heart or young areas of the heart vasculature or wherein a disproportionately low ratio of binding of the first peptide to the second peptide indicates an old heart or old areas of the heart vasculature.

103. A method according to claim 102, wherein the amino acid sequence for the first peptide is QAQGQLV.

104. A method according to claim 102, wherein the amino acid sequence for the first peptide is QAEGQLV.

105. A method according to claim 102, wherein the first peptide consists of the amino acid sequence QAQGQLV.

106. A method according to claim 102, wherein the first peptide consists of the amino acid sequence QAEGQLV.

107. A method according to claim 102, wherein the amino acid sequence for the second peptide is ARRGQAV.

108. A method according to claim 102, wherein the amino acid sequence for the second peptide is GWRFIRV.

109. A method according to claim 102, wherein the amino acid sequence for the second peptide is GRRFIRV.

110. A method according to claim 102, wherein the second peptide consists of the amino acid sequence ARRGQAV.

111. A method according to claim 102, wherein the second peptide consists of the amino acid sequence GWRFIRV.

112. A method according to claim 102, wherein the second peptide consists of the amino acid sequence GRRFIRV.

113. A method according to claim 102, wherein the BDNF receptor is trkB receptor.

114. A method according to claim 113, wherein the trkB receptor is truncated trkB.

115. A method according to claim 102, wherein said vasculature is microvasculature.

116. A method for delivering a functional moiety to a young heart vasculature in a mammal, the method comprising administering a conjugate of claim 48.

117. A method according to claim 116, wherein the amino acid sequence is QAQGQLV.

118. A method according to claim 116, wherein the amino acid sequence is QAEGQLV.

119. A method according to claim 116, wherein the peptide consists of the amino acid sequence QAQGQLV.

120. A method according to claim 116, wherein the peptide consists of the amino acid sequence QAEGQLV.

121. A method according to claim 116, wherein said functional moiety is a therapeutic agent.

122. A method according to claim 121, wherein said therapeutic agent is a growth factor.

123. A method according to claim 122, wherein said growth factor is platelet derived growth factor.

124. A method according to claim 122, wherein said growth factor is vascular endothelial growth factor.

125. A method according to claim 122, wherein said growth factor is angiopoietin.

126. A method according to claim 116, wherein said functional moiety is a detectable marker.

127. A method for delivering a functional moiety to a old heart vasculature in a mammal, the method comprising administering a conjugate of claim 66 or claim 75.

128. A method according to claim 127, wherein the amino acid sequence is ARRGQAV.

129. A method according to claim 127, wherein the amino acid sequence is GWRFIRV.

130. A method according to claim 127, wherein the amino acid sequence is GRRFIRV.

131. A method according to claim 127, wherein the peptide consists of the amino acid sequence ARRGQAV.

132. A method according to claim 127, wherein the peptide consists of the amino acid sequence GWRFIRV.

133. A method according to claim 127, wherein the peptide consists of the amino acid sequence GRRFIRV.

134. A method according to claim 127, wherein the BDNF receptor is trkB receptor.

135. A method according to claim 134, wherein the trkB receptor is truncated trkB.

136. A method according to claim 127, wherein said functional moiety is a therapeutic agent.

137. A method according to claim 136, wherein said therapeutic agent is estrogen.

138. A method according to claim 127, wherein said functional moiety is a detectable marker.

139. A method for discovering mimics of amino acid sequence QA(Q/E)GQLV or functionally equivalent modifications thereof, comprising:

a) determining a three-dimensional structure of said sequence;

b) identifying compounds comprising said structure; and

c) determining the capacity of said compounds for selective homing to TNF receptor(s) in a heart vasculature of a mammal;

wherein compounds which selectively home to TNF receptor(s) in the vasculature of the heart are mimics.

140.. A method according to claim 139, wherein the amino acid sequence is QAQGQLV.

141. A method according to claim 139, wherein the amino acid sequence is QAEGQLV.

142. A method according to claim 139, wherein said vasculature is microvasculature.

143. A method according to claim 142, wherein said microvasculature comprises microvasculature endothelial cells.

144. A method according to claim 139, wherein said mimic is a TNF receptor(s) agonist.

145. A method according to claim 139, wherein said mimic is a TNF receptor(s) antagonist.

146. A method according to claim 139, wherein said amino acid sequence is QAQGQLV.

147. A method for discovering mimics of amino acid sequence ARRGQAV or G(R/W)RFIRV or functionally equivalent modifications thereof, comprising:

a) determining a three-dimensional structure of said sequence;

b) identifying compounds comprising said structure; and

c) determining the capacity of said compounds for homing to BDNF receptor(s) in a heart vasculature of a mammal;

wherein compounds which home to BDNF receptor(s) in the vasculature of the heart are a mimics.

148. A method according to claim 147, wherein the amino acid sequence is ARRGQAV.

149. A method according to claim 147, wherein the amino acid sequence is GWRFIRV.

150. A method according to claim 147, wherein said amino acid sequence is GRRFIRV.

151. A method according to claim 147, wherein the BDNF receptor is trkB receptor.

152. A method according to claim 151, wherein the trkB receptor is truncated trkB.

153. A method according to claim 147, wherein said vasculature is microvasculature.

154. A method according to claim 153, wherein said microvasculature comprises microvasculature endothelial cells.

155. A method according to claim 147, wherein said mimic is a BDNF receptor(s) agonist.

156. A method according to claim 147, wherein said mimic is a or BDNF receptor(s) antagonist.